

# CITY OF WICHITA FALLS, TEXAS

## NOTICE OF CALL FOR BIDS

Sealed proposals will be received at the office of the City Purchasing Agent, Memorial Auditorium, Wichita Falls, Texas until **1:30 PM** on the **22<sup>ND</sup>** day of **FEBRUARY, 2016**, for furnishing the material, supplies, equipment, services, or for supplying the materials and/or doing the work necessary for the repair, construction or improvement, as the case may be, as indicated by the items hereunder listed and in accordance with the applicable specifications.

**BID START DATE:** **FEBRUARY 7, 2016**

**BID NUMBER:** **16-09**

**BID CLOSING DATE:** **FEBRUARY 23, 2016**

**These columns to be filled in by firm quoting**

ITEM NO.	QUANTITY	UNIT	DESCRIPTION	BRAND NAME	UNIT PRICE	TOTAL NET PRICE	DELIVERY DATE
			<b>NOTICE OF INTENT TO BID DUE FEBRUARY 15<sup>TH</sup> – 1:30 PM</b>				
<b>1</b>	<b>2500</b>	<b>CY</b>	<b>CLASS S CONCRETE (6 SACK)</b>				
<b>2</b>	<b>400</b>	<b>CY</b>	<b>CLASS A CONCRETE (5 SACK)</b>				
<b>3</b>	<b>300</b>	<b>CY</b>	<b>CURB &amp; GUTTER (3/8" PEA GRAVEL) (6 SACK)</b>				
<b>4</b>	<b>400</b>	<b>CY</b>	<b>CLASS C-C CONCRETE (7 SACK)</b>				
<b>5</b>	<b>800</b>	<b>CY</b>	<b>FLOWABLE FILL</b>				
			<b>ALL AS PER ATTACHED CITY SPECIFICATIONS</b>				

Copies of bid forms, specifications and/or plans and instructions to bidders may be obtained from the office of the City Purchasing Agent, Room 113, Memorial Auditorium, 1300 7<sup>th</sup> St. (P.O. Box 1431) Wichita Falls, Texas 76307. Phone # 940-761-7466. All bids received by the time set for receipts of bids, will be opened publicly and read aloud at that time, in the office of the City Purchasing Agent or other designated place, Memorial Auditorium, Wichita Falls, Texas. Any bid received after the bid closing date and time will be returned to the bidder unopened and will not be considered.

Bidder shall complete Conditions of Sale section hereunder listed, including signature.

Cash Discount Terms: \_\_\_\_\_% \_\_\_\_\_Days  
(NET-30 Days unless otherwise stated)

Delivery F.O.B. \_\_\_\_\_  
(F.O.B. Delivered unless otherwise stated)

**NOTE: CASH DISCOUNTS ARE NOT USED  
FOR BID EVALUATION.**

Shipment from: \_\_\_\_\_

Quotation firm for \_\_\_\_\_Days  
(45 Days unless otherwise stated)

Signed: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Co. Name: \_\_\_\_\_

Address: \_\_\_\_\_

For Further Information Contact:

\_\_\_\_\_

Phone #: \_\_\_\_\_ Fax #: \_\_\_\_\_

Email: \_\_\_\_\_

## **TERMS AND CONDITIONS OF CALL FOR BIDS**

### **1. GENERAL CONDITIONS:**

- a) Bidders shall thoroughly examine the specifications, drawings, schedule, instructions and all other contract documents.
- b) Bidders shall make all investigations necessary to thoroughly inform themselves regarding plant and facilities for delivery of material and equipment as required by the bid conditions. No plea of ignorance by the bidder of conditions that exist or that may hereafter exist as a result of failure or omission on the part of the bidder to make the necessary examinations and investigations, or failure to fulfill in every detail the requirements of the contract documents, will be accepted as a basis for varying the requirements of the City or the compensation to the vendor.
- c) Bidders are advised that all City contracts are subject to all legal requirements provided for in the City Charter, Code and/or applicable City Ordinances, State of Texas and Federal statutes.
- d) No officer or employee of the City shall have a financial interest, direct or indirect, in any contract with the City, or shall be financially interested, directly or indirectly, in the sale to the City of any materials, supplies or service, except on behalf of the City as an officer or employee.

### **2. PREPARATION OF BIDS:**

- a) All information required by the bid form shall be furnished. The bidder shall sign in ink the Call for Bid document and the Specification Compliance Certification document in the places indicated, stating the firm's name and address where required.
- b) Unit prices shall be shown, and where there is an error in extension of price, the unit price shall govern.
- c) Proposed delivery time shall be stated from the time the Purchase Order is received by the Vendor and shall include Sundays and Holidays.
- d) Bidders will not include neither federal taxes nor State of Texas sales, excise or use taxes in bid prices as the City of Wichita Falls is exempt from payment of such taxes. An exemption certificate will be furnished upon request.

### **3. DESCRIPTION OF PRODUCT/SERVICE:**

Any catalogue or manufacture's reference used in describing an item is merely descriptive, and not restrictive, unless otherwise noted, and is used only to indicate type and quality of material. Bidders are required to state exactly what they intend to furnish; otherwise they shall be required to furnish the items as specified.

### **4. CLARIFICATION OF OBJECTION TO BID SPECIFICATIONS:**

In the absence of a scheduled Pre-Bid Conference, a bidder may, if in doubt as to the true meaning of the specifications or other bid documents or any part thereof, submit to the City Purchasing Agent on or before seven calendar days prior to scheduled bid opening, a request for clarification. All such request for information shall be made in writing and the person submitting such request shall be responsible for its prompt delivery. Any interpretation of the bid, if made, will be made only by Addendum duly issued. A copy of such addendum will be mailed or delivered to each bidder receiving a Call for Bid document. The City will not be responsible for any other explanation or interpretation of the proposed bid made or given prior to the award of the contract.

### **5. SUBMISSION OF BIDS:**

- a) Bids and changes thereto shall be enclosed in sealed envelopes addressed to Purchasing Agent, City of Wichita Falls. The name and address of the bidder, the bid number, and the closing date and time shall be placed on the outside of the envelope. Bids must be submitted on the forms furnished. Telegraphic or fax bids will not be considered. Bids, however, may be modified by written or telegraphic notice, if such notice is received by the City Purchasing Agent prior to the time and date set for the bid closing.
- b) Samples, when required, must be submitted within the time specified, at no expense to the City of Wichita Falls. If not destroyed or used up during testing, samples will be returned upon request, at the bidder's expense.

### **6. WITHDRAWAL OF BIDS:**

Bids may not be withdrawn after the time set for the bid opening, unless approved by the City Council.

### **7. LATE BIDS OR MODIFICATION OF BID:**

Bids and modifications received after the time set for the bid opening will be returned to the bidder unopened, as required by State law.

### **8. REJECTION OF BIDS:**

- a) The City may reject a bid if:
  1. The bidder misstates or conceals any material fact in the bid, or if
  2. The bidder does not strictly conform to law or the requirements of the bid, or if
  3. The bid is conditional, except that the bidder may qualify his bid for acceptance by the City on an "All or None" basis or a "Low item" basis
- b) The City reserves the right to accept or reject any or all bids, or any part thereof, and to accept that offer considered most advantageous to the City. The City may also waive any minor informalities or irregularities in any bid.

### **9. AWARD OF CONTRACT:**

- a) The contract will be awarded to the lowest responsible bidder, conforming to the Call for Bid, whose bid is most advantageous to the City, price and other factors considered.
- b) The City reserves the right to accept any item or group of items, unless the bidder restricts his bid by specific reference, as in 8(a) above.
- c) Written notice of award will be furnished the successful bidder.
- d) A binding contract results after the issuance of an authorized Purchase Order by the City. The Purchase Order and the Call for Bid document shall constitute the contract documents.
- e) The City of Wichita Falls may, in its discretion, apply any monies owed the City, which remain delinquent at the effective date of this contract.

### **10. ASSURANCE OF COMPLIANCE - PERFORMANCE BOND OR DEPOSIT:**

- a) When specified in the Call for Bid, the successful bidder shall be required to furnish, as a part of the contract acceptance, a Purchase Contract Performance Bond, in the amount specified. Upon receipt of the completed Purchase Contract Performance Bond from the successful bidder, the City Purchasing Agent will issue a Purchase Order. In lieu of said bond, a certified check drawn upon a State or National Bank or Trust Company shall be deposited with the City Clerk.
- b) In the event a Purchase Contract Performance Bond is not required, and the vendor breaches the contract, the vendor shall be liable for liquidated damages in the amount specified in the Call for Bid.

### **11. ASSURANCE OF COMPLIANCE - EQUAL EMPLOYMENT OPPORTUNITY AND SMALL AND/OR MINORITY BUSINESS ENTERPRISE REQUIREMENTS:**

Bidder agrees that if his bid is accepted, he/she will not engage in employment practices which have the effect of discriminating against employees or prospective employees because of race, color, national origin, sex, age, handicap or political belief or affiliation. In addition, bidder agrees that he/she will abide by all applicable terms and provision of the Nondiscrimination Clause and the Small or Minority Business Enterprise Clause as contained in the City of Wichita Falls current Affirmation Action Plan, or applicable Federal statutes.

## Notice of Intent to Bid

Please fill in the following form and mail or fax to City of Wichita Falls before 1:30 PM, FEBRUARY 15, 2016 stating your intent to bid.

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FAX or MAIL Due: FEBRUARY 15, 2016 - 1:30 PM

# NOTICE OF INTENT TO BID

Date \_\_\_\_\_

**TO: CITY OF WICHITA FALLS  
JENNIFER BABINEAUX, PURCHASING AGENT  
1300 7TH STREET ROOM 113  
WICHITA FALLS, TEXAS 76301**

**940-761-7466 PHONE  
940-761-7688 FAX**

**From:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### REFERENCE:

This is our letter of intent to bid on **Bid # 16-09 ANNUAL SUPPLY OF READY MIX CONCRETE AND FLOWABLE FILL:**

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## READY MIX CONCRETE FLOWABLE FILL

It is the intent of this Call for Bids to solicit quotations for the City's annual requirements of Ready Mix Concrete, and Flowable Fill. The primary user of concrete and flowable fill is the City's Street Maintenance Division. However, various City departments will have requirements throughout the year.

Bidder agrees to supply more or less than the quantity stated, as needed, and at the prices quoted. Bidder should bid all the prices delivered to job or plant site. It is assumed that all bidders will be capable of delivering product on the same day as ordered. Normal delivery within two (2) hours of ordering is desirable. Should the successful bidder be unable to deliver within two (2) hours, the City reserves the right to purchase from an alternative source.

Bids shall be awarded to the supplier offering the "Best Value" to the City. Evaluating factors will include price and delivery history of the supplier.

The successful bidder shall be required to show evidence of Comprehensive General Liability Insurance in the amount of \$300,000 with the City of Wichita Falls, Texas, listed as additional named insured. The successful bidder shall also be required to carry Workers' Compensation Insurance in full compliance with the laws of the State of Texas.

The successful bidder shall be required to submit a batch design to the City Engineer for approval on all products bid.

The one-year contract will be effective on or about March 15, 2016 and terminate on or about March 14, 2017. Please note that bids will be awarded on a line item basis. Bidders may quote all categories or only a single item according to their capability to supply product.

A complete set of the City's February 2003, Concrete Specifications and Flowable Fill Specifications are included with this bid. Please retain these specifications for your file. The bid products (Ready Mix concrete) are identified on Table # 3, the last page of the Specification. Please note the "Entrained Air" provision on Class S concrete, Table 3.

## PRICE QUOTATION FORM

Item	Concrete Class (Estimate)	Annual Quantity	Description	Unit Cost	Total Cost
1.a)	Class S (6 Sack)	2500 CY	Ready Mix Concrete (2 CY Minimum)	_____ CY	_____
b)		75	*Purge or Truck Time occurrences (15 Min Increments)	_____ EA	_____
<b>TOTAL</b>					_____
2.a)	Class A (5 Sack)	400 CY	Ready Mix Concrete w/ Entrained Air	_____ CY	_____
b)		20	*Purge or Truck Time occurrences (15 Min Increments)	_____ EA	_____
<b>TOTAL</b>					_____
3.a)	Curb & Gutter (3/8 pea gravel) (6 Sack)	300 CY	Ready Mix Concrete	_____ CY	_____
b)		20	*Purge or Truck Time occurrences (15 Min Increments)	_____ EA	_____
<b>TOTAL</b>					_____
4.a)	Class C-C (7 Sack)	400 CY	Ready Mix Concrete	_____ CY	_____
b)		20	*Purge or Truck Time occurrences (15 Min Increments)	_____ EA	_____
<b>TOTAL</b>					_____
5.a)	Flowable Fill	800 CY	Per Attached Specifications	_____ CY	_____
b)		30	*Purge or Truck Time occurrences (15 Min Increments)	_____ EA	_____
<b>TOTAL</b>					_____

***\*First 30 minutes of truck time to point of 1st delivery is to be included in cost of concrete; purge time to be paid on basis of 15 minute increments beyond 30 minutes.***

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

Title: \_\_\_\_\_

Company: \_\_\_\_\_

## **FLOWABLE FILL SPECIFICATIONS**

American Concrete Pavement Association – "Municipal Concrete Pavement Manual - Guide Specifications and Design Standards. Flowable Low-Strength Mortar Backfill"

### **Quantities of Dry Materials per cubic yard**

Cement (Portland Normal) - 50 lbs.

Sand (SSD) - 2800 lbs

Fly Ash - 275 lbs

Water (Maximum) - 500 lbs

### **Fine Aggregate Gradations\***

Sieve Size	% Passing
3/4	100
200	0-10

\*Note: It is intended that the sand be a fine sand that will stay in suspension in the mixture to the extent required to obtain a flowable consistency. Specifications should be strictly adhered to.

**CITY OF WICHITA FALLS  
STANDARD SPECIFICATION FOR PORTLAND CEMENT CONCRETE  
REVISED, FEBRUARY, 2003**

This item governs the materials used, the storing and handling of materials, and the proportioning and mixing of concrete for bridges, pavements, culverts, prestressed concrete, and other concrete construction for the City of Wichita Falls.

Cement concrete is composed of Portland cement, aggregates, (fine and coarse), admixtures if desired or required, and water, proportioned and mixed as hereinafter provided.

The north Texas Council of Governments, (NTCOG), Standard Specifications for Public Works shall be the governing base specification. The following supplemental conditions modify or expand the NTCOG standard specifications. If required, the City Engineer of Wichita Falls shall determine interpretation.

**ITEM 7.4.4 Concrete Mix Design And Control:**

**Delete Section 7.4.4 and replace with the following:**

Classification and Mix Design. It is the responsibility of the Contractor to furnish the mix design, using a Coarse Aggregate Factor acceptable to the City Engineer, for the class(es) of concrete specified, to conform with the requirements contained herein. The Contractor will perform, at his/her own expense, the work required to substantiate the design. Submit complete concrete design data to the City Engineer for approval. Submit one mix design before initial delivering; and at not less than 6 month intervals, unless otherwise requested by the City.

It is also the responsibility of the Contractor to determine and measure the batch quantity of each ingredient, including all water, not only for batch designs but for all concrete produced for the project, so that the mix conforms to these specifications and other requirements shown on the plans.

In lieu of the above mix design responsibility, the Contractor may accept a design furnished by the City, however, this will not relieve him of the responsibility of providing concrete meeting the requirements of these specifications.

Trial batches will be made and tested using all the proposed ingredients prior to the placing of concrete, and when the aggregate, and/or type, brand or source of cement only is changed, the City Engineer may waive trial batches only if a prior record of satisfactory performance of the cement has been established.

Make the trial batches in the mixer to be used on the job. When Transit Mix concrete is to be used, the trial designs will be made in a transit mixer representative of the mixers to be used. Batch size shall not be less than 50 percent of its rated mixing capacity.

Mix designs from previous or concurrent jobs may be used without trial batches if it is agreed and determined acceptable to the City in writing.

The coarse aggregate factor shall not be more than 0.82 except that when the voids in the coarse aggregate exceed 48 percent of the total dry loose volume, the coarse aggregate factor shall not exceed 0.85. The coarse aggregate factor shall not be less than 0.68 unless authorized by the City Engineer in writing. Note that beam strengths listed on Table 3 are center point loadings.

Water reducing or retarding agents may be used with all classes of concrete at the option of the Contractor, and will be required for hot weather concreting, for cased drilled shafts and for continuous slab placement, provided written permission is obtained in advance from the City Engineer. This material shall be considered subsidiary to the various pay items included in the contract.

When a retarding admixture is required for hot weather concreting, as specified in Article 420.13 of the Texas Specifications, the amount to be used will be as required in the Item, "Concrete Admixtures", subject to change by the City Engineer when required. When used in continuous slab placement, the amount to be used will be established by several trial batches with varying retarder content and simulating the placing conditions to be encountered. When water reducing or retarding agents are used at the option of the Contractor, reduced dosage of the admixture will be permitted.

In hot weather, cool the aggregates and the mixing water, as necessary, to maintain the concrete temperature within 50F to 90F, at the time of placing, except for bridge deck concrete placement, as specified.

Entrained air will be required in accordance with Table 3. Design the concrete to entrain 4 percent air in the plastic state when Grade 1 or 2 coarse aggregate is used, 5 percent when Grade 3, 4, or 9 coarse aggregate is used, and 6 percent for Grades 5, 6 or 7 unless otherwise specified by the City Engineer. Incorporate the air-entraining admixture solution into the batch with the mixing water, using a suitable visual measuring device. When another type of admixture is used with an air-entraining admixture, add it in solution in another portion of the mix water, as directed, by an additional, suitable visual measuring device.

Equip the measuring device with interlocks to prevent discharging during the charge cycle and to prevent charging during the discharging cycle. Provide a means to calibrate the measuring device to within + or - 1.5%. Dispense the air-entraining admixture solution to the batch from a bulk supply tank.

For paving and when directed, provide a bulk supply tank containing sufficient solution for the entire day's concreting operations. On the dispensing system, provide device(s) capable of detecting and indicating the presence or absence of admixture flow. When the quantity of entrained air is found to be more than 1.5 percentage points over those values given herein, additional test beams or cylinders may be made. Voids 1 millimeter or more/ in size will be considered entrapped air. Voids less than 1 millimeter will be considered entrained air.

Slump requirements will be as specified in Table 3.



#### **ITEM 7.4.5 Quality of Concrete**

**Replace the first paragraph of 7.4.5.(b) with:**

The concrete shall be uniform, workable and of a consistency acceptable to the City Engineer. The cement content, maximum allowable water/cement ratio, the desired and maximum slump, the proper amount of entrained air and the strength of requirements for all classes of concrete shall conform to the requirements of these specifications. It is the responsibility of the Contractor to provide concrete meeting these requirements.

During the progress of the work, the City may cast test cylinders or beams, perform slump and entrained air tests and will make temperature checks, as required, to insure compliance with the specifications. Specimens will be tested in accordance with established testing procedures.

If the required strength or consistency of the class of concrete being produced cannot be secured with the minimum cement specified or without exceeding the maximum water/cement ratio, the Contractor will be required to furnish different aggregates, use a water reducing agent, an air entraining agent or increase the cement content in order to provide concrete meeting these specifications.

All test specimens, beams or cylinders, representing tests for removal of forms and/or falsework shall be cured using the same methods, and under the same conditions as the concrete represented.

**Add the following as Section 7.4.5.(c):**

"Mortar" for repair of concrete, consists of 1 part cement, 2 parts finely graded sand, and enough water to make the mixture plastic. When required to reduce color difference, white cement shall be added to the satisfaction of the City to produce the color required. When required by the City Engineer, acceptable latex adhesive shall be added to the mortar.

#### **ITEM 7.4.6 Mixing**

**Replace 7.4.6.(a) with:**

Mix all concrete in quantities required for immediate use. Any concrete, which is not in place within the limits outlined in Texas Specifications Article 420.11, will not be used.

Maintain all equipment, tools, and machinery used for hauling materials and performing any part of the work in such condition to insure completion of the work under way without excessive delays for repairs or replacement.

Perform the mixing in a mixer of approved type and size that will produce a uniform distribution of the material throughout the mass and is capable of producing concrete meeting the requirements of these specifications.

Attach a plate to the mixer showing the manufacturer's recommended operating data and operate it within the speed and capacity limits stated thereon unless otherwise directed by the City Engineer.

Do not exceed the absolute volume of the concrete batch the rated capacity of the mixer.

**The mixing equipment shall be capable of producing sufficient concrete to provide the quantities required to comply with Article 420.11 of the Texas Specifications.**

Discharge the entire contents of the drum before any materials are placed therein for the succeeding batch.

Do not place improperly mixed concrete into the structure.

Mixers shall be subject to daily examination for changes in condition due to accumulations of hardened concrete and/or blade wear. Remove any hardened concrete to the satisfaction of the City before using the mixer. Make available upon request of the City Engineer a copy of the Manufacturer's design, showing dimensions and arrangement of blades. Repair or replace worn blades with new ones when they have worn as much as 10% from their original dimensions except that blade wear in truck mixers and agitators shall be in accordance with the Item, "Ready-Mix Plants".

Deliver concrete to the site of the work and discharge it from the mixer, agitator, or non-agitating equipment in accordance with the requirements of Article 420.11 of the Texas Specifications.

Batch Mixers. Batch the mixer by either the volumetric method or by weighing, and equip with a suitable timing device which locks the discharging mechanism and signals when the specified time of mixing has elapsed.

Provide an adequate water supply and suitable metering devices.

Except for incidental construction, include an extra quantity of sand, cement, and water sufficient to coat the inside surface of the drum with the first batch of concrete materials placed in the mixer for each placement.

After all the required materials are in the mixer, mix the concrete not less than 50 seconds nor more than 90 seconds, measured from the time the last material enters the mixer to the time discharge of the concrete begins unless otherwise specified by the City Engineer.

**Add the following to 7.4.6.(b) (6):**

The use of ready-mixed concrete will be permitted for all structural concrete provided that the plant, truck mixers, agitators and mixing equipment conform to the requirements of the Texas Specifications Item, "Ready-Mix Plants".

**Replace second sentence in 7.4.6.(c) with:**

When approved by the City Engineer in writing or when specified for use, these mixers may be used for other types of concrete construction, including structural concrete, if the number of mixers furnished will supply the amount of concrete required for the particular operation in question.

Calibration of these mixers will be required.

**NOTE: All material related Specifications from Item 7.4 (Concrete For Structures) including the following, shall apply to Item 5.8 (Portland Cement Concrete Pavement)**

**Add the following to 7.6.9(a)**

Substitute "any" in lieu of Class C, F, H, X and Z and delete the words "used in bridge structures" in the second sentence.

Class Of Concrete	Min. Sack Cement Per C.Y.	Min. 28-day Compressive Strength (psi)	Min. 7-day 3rd pt. Flex. Strength (psi)	Maximum w/c Ratio (lb / lb)	CCI Design Number	Acceptable Coarse Aggr. Grades	General Usage	Maximum Slump (in)
A	5.0	3000	425 or 390*	0.58	01-507	1-2-3-4	Drilled Shafts, Bridge Substructure, Non-Traffic Bearing Culverts, Inlets, Manholes, Headwalls and Pavement Slabs to be cured by Contractor Minimum 28 days	3
B	4.0	2000	280	0.71	01-476	2-3-4-5-6-7	Riprap, Long Span Structure Thrust Beams	6
C	6.0	3600	510 or 470*	0.53	01-607	1-2-3-4-5-8	Drilled Shafts, Bridge Railing & Substructure, Traffic Bearing Culverts, Wingwalls, Concrete Approach Slabs, Concrete Barrier Railing and Machine Laid Curb	7
S	6.5	4000	570 or 525*	0.44	01-655	2-3-4-5	Utility Cuts, Bridge Slabs, Pavement Slabs and Culverts	3.5
D	3.0	1500	215	0.98		2-3-4-5-6-7	Riprap	6
H	6.0	-	-	0.49		3-4-5-6	Pre-Stressed Concrete Beams, Boxes, Pilings and Concrete Barrier Railing	3
C-C	7.0	-	-	0.37		2-3-4-5	Bridge Slab, Special High Strength Concrete, when a High-Range Water Reducer is used	3
F	6.0 to 8.0	-	-	0.49		2-3-4-5	Railroad Structures, Occasionally for Bridge Piers, Columns or Bents	4
SP	-	3600	510 or 470*	-	01-607	2-3-4-5	Utility Cuts	3.5

\*Minimum flexural strength requirement when Type II or Type I/II cement is used.

- Entrained air will be required for bridge slabs, top slabs of traffic bearing culverts, piers, bents, precast piling(non-pressured), drilled shafts placed in water, bridge railing and concrete barrier railing. When Class "H" concrete is used in barrier railing, entrained air will not be required.
- Grade 1 coarse aggregate will not be permitted in cased drilled shafts.
- 5 ½" maximum slump permitted for pavement slabs.
- When Type II cement is used with Classes "C" or "S" concrete, the 7-day flexural strength required will be 550 psi minimum and with Class "A", 460 psi minimum.
- The use of Grade 7 aggregate must have prior approval of the Engineer.
- Grade 8 aggregate for use in machine-laid curb.
- Class "C-C" concrete may be used only when included in the contract or permitted by the Engineer. A high-range water-reducing admixture will be required. Class "H-H" concrete may be used only when properly certified by the Engineer.
- When Class "H-H" concrete is used, entrained air will not be required.
- Concrete classes ending in "P" designation shall conform to ASTM C618-84.